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**From:** Fullagar, Jill [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7BA061353C314B40A14A8BE1EE382AE3-GABLE, JILL]  
**Sent:** 2/1/2018 12:00:16 AM  
**To:** Hunter, Christopher [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=32905162cc58495da107db89c7dea903-Hunter, Chr]; Sweeney, Stephen [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=37ae2b769eab4231bdf19334e3651814-SSWEENEY]; Glazer, Thomas [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6578deb6a4b042ffbe42a9854429feb5-Glazer, Tho]  
**Subject:** FW: Literature on Ocean Acidification in Oregon  
**Attachments:** enclosure\_2\_epa\_request\_for\_oa\_public\_comment.pdf; Marshall et al 2017.pdf; Busch and McElhany 2016.pdf

Steve and Tom—I went back to the email Lori sent you with the OR OA comment letters to grab the Coquille on to send to Chris (because it was faster than dealing with my mountain of OR docs...) and realized she had attached the wrong comments. The Tom Quintel comments she sent do not pertain to OA. The below email and the attachments are what were sent from the Coquille staff. Just wanted to make sure you had them. Thx.

jill

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Jill Fullagar, Impaired Waters Coordinator  
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**From:** Mark Healy [mailto:markhealy@coquilletribe.org]  
**Sent:** Monday, August 28, 2017 9:42 AM  
**To:** Fullagar, Jill <Fullagar.Jill@epa.gov>  
**Subject:** Literature on Ocean Acidification in Oregon

Jill,

I know this is very late. The public comment request for Ocean Acidification did not cross my desk until I started to get info on the OR 2012 Integrated report from EPA. I am sending a few articles and links from Dr. Shallin Busch that could be added to the summary of OA impacts.

My opinion as a staff person, not representing the Tribe's position, is that the OA issue needs to be addressed in the Oregon water quality standards. However, if Oregon cannot *do* anything about OA, which is likely, would calling the on-shore ocean areas impaired for OA be appropriate, knowing there is nothing that *can* be done about it?

I think the Oregon estuaries could possibly be modified to improve OA, but then the complex dynamics of the estuary would make it very difficult to address with a water quality standard.

We have acclimated up to 100,000 coho smolts for ten years now and for the last two years we have not seen a single adult return to our reservoir. Something about the current ocean conditions is causing them to stray, die, or get eaten.

These are 2017 articles that should be added to the OA literature list.

Coho can get lost and can't smell predators

<http://kuow.org/post/salmon-are-losing-their-sense-smell-thanks-carbon-emissions>

<http://www.fondriest.com/news/study-finds-salmon-sense-of-smell-is-impaired-by-freshwater-acidification.htm>

Impact to the Dungeness fishery

[https://www.nwfsc.noaa.gov/news/features/ocean\\_acidification\\_west\\_coast\\_dungeness\\_crab\\_fishery/](https://www.nwfsc.noaa.gov/news/features/ocean_acidification_west_coast_dungeness_crab_fishery/)

Fish getting smaller

<https://www.scientificamerican.com/article/warming-waters-could-mean-smaller-fish/>

Mark

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**From:** Colin Beck

**Sent:** Wednesday, August 16, 2017 2:41 PM

**To:** Mark Healy <[markhealy@coquilletribe.org](mailto:markhealy@coquilletribe.org)>

**Subject:** FW: Consultation Invitation for OR 2012 Integrated Report

Can you look into this and let me know if they're planning on adding any waterways that are in our service area?

Colin

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**From:** Fullagar, Jill [<mailto:Fullagar.Jill@epa.gov>]

**Sent:** Wednesday, August 16, 2017 2:13 PM

**To:** Colin Beck <[ColinBeck@coquilletribe.org](mailto:ColinBeck@coquilletribe.org)>

**Subject:** Consultation Invitation for OR 2012 Integrated Report

The attached consultation invitation was sent to your Tribal Leader last week. Please let me know if you have any questions. Thank you.

Best,  
Jill Fullagar

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